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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,155	12/16/2005	Seiji Mizohata	Q91918	9130
23373 7590 06/23/2010 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER GRAY, JILL M	
			ART UNIT 1782	PAPER NUMBER
			NOTIFICATION DATE 06/23/2010	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

**Application No.**

10/561,155

**Applicant(s)**

MIZOHATA ET AL.

**Examiner**

Jill Gray

**Art Unit**

1782

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3, 5, 8-10 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 8-10 and 21-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 18, 2010 has been entered.
2. Pursuant to the entry of the amendment of May 18, 2010, the status of the claims is as follows: Claims 1, 3, 5, 8-10 and 21-23 are pending. Claims 21-23 are new. Claim 1 is amended.

### ***Response to Amendment***

3. The rejection of claims 1, 3, 5, and 8-10 under 35 U.S.C. 103(a) as being unpatentable over European Patent Publication EP 821,086 in view of Japanese Patent Publication JP 62-243873 abstract is moot in view of applicants' amendments.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3, 5, 8, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Publication EP 821,086 (the publication) in view of Shizuki et al., 4,600,743 (Shizuki).

**Regarding Independent claim 1**

The publication discloses polyether ester elastic fibers comprising a polybutylene terephthalate and at least one alkali metal salt of an organic sulfonic acid. In addition, the publication discloses that the polyether ester elastomer contains polybutylene terephthalate as a hard segment and polyoxyethylene glycol as a soft segment. See entire document, and for example, abstract, page 3, lines 50-57 and page 4, lines 1-5.

The publication discloses that his organic sulfonic acid can be a benzenesulfonate but does not specifically teach those compounds as set forth in present claim 1. Additionally, the publication is silent as to the coefficient of moisture absorption and coefficient of water absorption extension and intrinsic viscosity.

Shizuki teaches fibers obtained by melt-spinning a fiber forming thermoplastic polymer containing a polyoxyalkylene glycol. See entire document, and for example, abstract. Shizuki teaches that the thermoplastic polymer can be polyesters or polyether esters, further teaching that the polyester can be polybutylene terephthalate. Note column 4, lines 49-54. In addition, Shizuki teaches that his polyesters contain other optional components such as organic sulfonates that are substantially of the type contemplated by applicants. See column 4, lines 56-68. Also, Shizuki teaches that the inclusion of such organic sulfonates results in fibers having good wicking properties and dyeability and antistatic properties. See column 5, lines 13-32.

It would have been obvious to one having ordinary skill in the art to modify the polybutylene terephthalate of the publication by adding an organic sulfonate during the polymerization process, wherein said organic sulfonate is a benzene sulfonate, as taught by Shizuki with the reasonable expectation of success of producing a fiber having good wicking properties, antistatic properties and dyeability.

As to the specific organic (benzene) sulfonate, Shizuki teaches compounds that are substantially similar to those contemplated by applicants such as sodium 3,5-bis(carbo- $\beta$ -hydroxyethoxy)-benzenesulfonate. It is the examiner's position that the requirement for the specific metal organic sulfonates of present claim 1 are no more than the preferential selection of a known material based on its suitability for its intended use, and thus is *prima facie* obvious, in the absence of clear factual evidence on this record of unexpected properties in the polyether ester fiber, wherein said properties are directly related to the specific organic sulfonate.

As to the coefficient of moisture absorption and coefficient of water absorption extension, and intrinsic viscosity of the fiber, it is the position of the examiner that the fiber of the prior art is substantially the same as that fiber of the present invention. Moreover, Shizuki teaches enhanced wicking properties based upon the inclusion of an organic sulfonate (column 5, line 17). Therefore, the examiner has reason to believe that properties such as the coefficient of moisture absorption, coefficient of water absorption, and intrinsic viscosity are the same or substantially similar so as to render obvious the present requirements, in the absence of factual evidence to the contrary. Applicants are invited to provide such evidence.

Therefore, the combined teachings of the publication and Shizuki would have rendered obvious the invention of present claim 1.

**Regarding dependent claims 3, 5, 8 and 21-23**

Regarding claim 3, as set forth above, it is the position of the examiner that the fiber of prior art is substantially the same as that of the fiber of the present invention, and for reasons stated above, the examiner has reason to believe that this property of the prior art fiber would be within the present claimed range in the absence of factual evidence to the contrary.

Regarding claim 5, Shizuki teaches the inclusion of the organic sulfonate in an amount of 0.5 to 5 mol%. See column 5, lines 25-30.

Regarding claim 8, the publication discloses that the soft segments are present in an amount of 30-80% by wt. This teaching obvious the present claimed ratio. See page 4, lines 28-31.

As to claims 21-23, the publication discloses the formation of fabrics. See pages 2, line 12, page 7, lines 7-9 and page 10, lines 44-56. It would have been an obvious expedient to the skilled artisan form stretchable clothing such as socks or underwear using the elastic fabrics. Hence, the requirements of these claims are not construed to be a matter of invention.

Therefore, the combined teachings of the publication and Shizuki render obvious the invention as claimed in present claims 1, 3, 5, 8, and 21-23.

6. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Publication EP 821,086 (the publication) in view of Shizuki et al.,

4,600,743 (Shizuki) as applied above to claims 1, 3, 5, 8 and 21-23, and further in view of Azuse et al., 2003/0024052 (Azuse).

The publication in view of Shizuki is as set forth above but does not teach the application of a finishing oil.

Azuse teaches a finishing composition for elastic fibers comprising lubricants of the type contemplated by applicants, such as silicones. See entire document, and for example, abstract and [0110]. Azuse teaches that the application of the finish prevents tack during processing and enhances the antistatic properties of the fiber.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of the publication by applying a finishing oil as required by applicants and as taught by Azuse, in order to enhance the antistatic properties of the fiber and prevent tacking during processing. As to the amount of add-on, this amount would have been obvious to determine for optimization purposed during routine experimentation.

As to claim 10, Azuse teaches a finishing oil of the type contemplated by applicants, thus it is the position of the examiner that properties such as the viscosity would be similar to those of the present invention, in the absence of factual evidence to the contrary.

Therefore, the combined teachings of the publication, Shizuki and Azuse would have rendered obvious the invention as claimed in present claims 9 and 10.

7. Claims 1, 3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shizuki et al., 4,600,743 (Shizuki) as applied above to claims 1, 3, 5.

**Regarding Independent claim 1**

Shizuki is as set forth above and incorporated herein. In particular Shizuki teaches fibers obtained by melt-spinning a fiber forming thermoplastic polymer containing a polyoxyalkylene glycol. See entire document, and for example, abstract. Shizuki teaches that the thermoplastic polymer can be polyesters or polyether esters, further teaching that the polyester can be polybutylene terephthalate and the polyoxyalkylene glycol can be polyoxyethylene glycol. Note column 1, lines 40-45, column 4, lines 49-54 and column 5, lines 33-65. In addition, Shizuki teaches that his polyesters contain other optional components such as organic sulfonates that are substantially of the type contemplated by applicants, such as organic (benzene) sulfonate. In particular, Shizuki teaches compounds that are substantially similar to those contemplated by applicants such as sodium 3,5-bis(carbo- $\beta$ -hydroxyethoxy)-benzenesulfonate. See column 4, lines 56-68.

Also, Shizuki teaches that the inclusion of such organic sulfonates results in fibers having good wicking properties and dyeability and antistatic properties, further teaching that the organo sulfonates can be added during the polymerization of the polyester. See column 5, lines 13-32, and column 7, line 50 through column 8, and line 3.

Shizuki does not teach the specific organic sulfonate as set forth in present claim 1 or the coefficient of moisture absorption and coefficient of water absorption extension and intrinsic viscosity.

As to the specific metal organic sulfonate, it is the examiner's position that the requirement for the specific metal organic sulfonates of present claim 1 is no more than the preferential selection of a known material based on its suitability for its intended use, and thus is *prima facie* obvious, in the absence of clear factual evidence on this record of unexpected properties in the polyether ester fiber, wherein said properties are directly related to the specific organic sulfonate.

As to the coefficient of moisture absorption and coefficient of water absorption extension, and intrinsic viscosity of the fiber, it is the position of the examiner that the fiber of the prior art is substantially the same as that fiber of the present invention. Moreover, Shizuki teaches enhanced wicking properties based upon the inclusion of an organic sulfonate (column 5, line17). Therefore, the examiner has reason to believe that properties such as the coefficient of moisture absorption, coefficient of water absorption, and intrinsic viscosity are the same or substantially similar so as to render obvious the present requirements, in the absence of factual evidence to the contrary. Applicants are invited to provide such evidence.

Therefore, the teachings of Shizuki render obvious the invention as claimed in present claim 1.

**Regarding dependent claims 3 and 5**

As to claim 3, it is the position of the examiner that the fiber of prior art is substantially the same as that of the fiber of the present invention, and for reasons stated above, the examiner has reason to believe that this property of the prior art fiber

would be within the present claimed range in the absence of factual evidence to the contrary.

As to claim 5, Shizuki teaches the inclusion of the organic sulfonate in an amount of 0.5 to 5 mol%. See column 5, lines 25-30.

Therefore, the teachings of Shizuki render obvious the invention as claimed in present claims 1, 3, and 5.

8. Claims 8 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shizuki et al., 4,600,743 (Shizuki) as applied above to claims 1, 3, 5, in view of European Patent Publication EP 821,086 (the publication), as applied above to claims 1, 3, 5, 8 and 21-23.

Shizuki is as set forth above but does not teach the specific ratio of hard segments to soft segments or the specific formation into fabrics and clothing.

As to claim 8, the publication is as set forth above and teaches that the polyether ester elastomer contains polybutylene terephthalate as a hard segment and polyoxyethylene glycol as a soft segment wherein the publication discloses that the soft segments are present in an amount of 30-80% by wt. See page 4, lines 28-31. The teachings of the publication render obvious the present claimed ratio, hence, it would have been obvious to the skilled artisan to modify the proportions of Shizuki in view of the teachings in the publication during routine experimentation to obtain the optimum proportions. Moreover, it is the position of the examiner that since the result sought and the ingredients used were known, it was within the expected skills of one having

ordinary skill in this art to arrive at the optimum proportion of those ingredients, and that any improved results alleged by applicants would have resulted from experimentation of an obvious nature.

As to claims, the publication discloses the formation of fabrics. See pages 2, line 12, page 7, lines 7-9 and page 10, lines 44-56. It would have been an obvious expedient to the skilled artisan to use the fibers of Shizuki to form stretchable clothing such as socks or underwear using the elastic fabrics. Hence, the requirements of these claims are not construed to be a matter of invention.

Therefore, the combined teachings of Shizuki and the publication would have rendered obvious the invention as claimed in present claims 8 and 21-23.

9. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shizuki et al., 4,600,743 (Shizuki) as applied above to claims 1, 3, and 5, in view of Azuse et al., 2003/0024052 (Azuse), as applied above to claims 9 and 10

Shizuki is as set forth above but does not teach the application of a finishing oil to his fibers.

Azuse teaches a finishing composition for elastic fibers comprising lubricants of the type contemplated by applicants, such as silicones. See entire document, and for example, abstract and [0110]. Azuse teaches that the application of the finish prevents tack during processing and enhances the antistatic properties of the fiber.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Shizuki by applying a finishing oil as

required by applicants and as taught by Azuse, in order to enhance the antistatic properties of the fiber and prevent tacking during processing. As to the amount of add-on, this amount would have been obvious to determine for optimization purposed during routine experimentation.

As to claim 10, Azuse teaches a finishing oil of the type contemplated by applicants, thus it is the position of the examiner that properties such as the viscosity would be similar to those of the present invention, in the absence of factual evidence to the contrary.

Therefore, the combined teachings of Shizuki and Azuse would have rendered obvious the invention as claimed in present claims 9-10.

#### ***Response to Arguments***

10. Applicant's arguments with respect to claims 1, 3, 5, 8-10 and 21-23 have been considered but are moot in view of the new ground(s) of rejection.

No claims are allowed.

#### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTOL-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill Gray whose telephone number is 571-272-1524. The examiner can normally be reached on M-Th and alternate Fridays 10:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jill Gray/  
Primary Examiner  
Art Unit 1782

jmg